

### **REMARKS**

The above claim amendments are submitted with the following remarks to be fully responsive to the Official Action dated March 2, 2004. It is further submitted that this response is timely filed within the three-month shortened-statutory period as extended by the Request for One-Month Extension of Time filed concurrently herewith. Also, a check in the amount of \$318.00 is enclosed for the addition of new independent claims 30 and 31 and One-Month Extension of Time Fee. Should any additional fee be required, the Commissioner is authorized to charge Kagan Binder Deposit Account No. 50-1775 and thereafter notify us of the same. Reconsideration of all outstanding grounds of the rejection and allowance of the subject application are believed in order and respectfully requested.

The Examiner's allowance of claims 11-13 and indication of allowable subject matter within dependent claims 5-8, 17-22, and 25-29 is noted with appreciation. By this amendment, independent claims 1 and 15 are presently amended to recite an interconnect having a shunt comprising an eroded carbonized area of a surface of a carbonizable material and are believed allowable over the prior art of record as explained in more detail below. As such, the indicated allowable subject matter of claims 5-8, 17-22, and 25-29 has not been incorporated into independent claim 1 and 15. However, new independent claims 30 and 31 are presented and substantially include the limitations of original claim 1 and the limitations of claims 5 and 8, respectively. In particular, new claim 30 recites an interconnect having a shunt comprising a carbonized area (whether formed by deposition or erosion) on the surface of the substrate and a plurality of through holes extending through the substrate. New claim 31 recites an electrical interconnect having a shunt comprising a carbonized area (whether formed by deposition or erosion) on the surface of the substrate wherein the shunt is formed on a shearable portion of the substrate. As presented, new claims 30 and 31 are believed to be allowable over the prior art of record. In particular, while U.S. Patent No. 4,001,684 to Fritts cited by the Examiner does show a carbon element that has been deposited on a substrate, Fritts does not teach or suggest a plurality through holes or a shearable portion of a substrate. Allowance of new claims 30 and 31 is therefore respectively requested.

The Official Action rejects independent claims 1 and 15 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,001,684 to Fritts. By this amendment independent claims 1 and 15 are amended to recite a shunt that comprises an eroded carbonized area of a surface of a carbonizable material. Support for this amendment can be found within the specification in one

instance at page 36, lines 3-10, which explains that formation of a carbonized area in accordance with the invention results in an erosion or dissipation of the material being carbonized. As explained in the specification, the carbonized area can be a surface of the substrate or a surface of a carbonizable material (a cover layer, for example) that has been deposited on the substrate.

Applicants respectfully submit that independent claims 1 and 15, as presently amended, now recite a carbonized area of a substrate that is distinct from the carbon element of Fritts. In particular, Fritts teaches a carbon element that is deposited onto a substrate. That is, the carbon element of Fritts is added to the substrate. In contrast, the carbonized area recited in presently amended independent claims 1 and 15 comprises an eroded area of a surface a carbonizable material. As mentioned above and explained in the specification, the carbonizable material can include the substrate itself or a cover layer formed on the substrate. Carbonizing of the carbonizable material, in accordance with the present invention, results in the formation of an eroded carbonized area of a surface of the carbonizable material. Applicants respectfully submit that the eroded aspect of the carbonized area recited in presently amended independent claims 1 and 15 is patentably distinct from the deposited carbon element of Fritts. Fritts does not disclose or suggest providing a carbon element in any manner other than by depositing such a carbon element. Accordingly, presently amended claims 1 and 15 are believed in a condition for allowance, which allowance is earnestly requested.

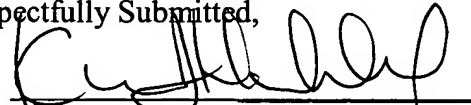
Regarding the dependent claims of record, these claims stand rejected under 35 U.S.C. 103(a) as unpatentable over Fritts in view of either U.S. Patent No. 3,607,476 to Besamat, U.S. Patent No. 5,300,808 to Suppelsa, or U.S. Patent No. 5,147,208 to Bachler. It is respectfully submitted that each of these dependent claims are allowable at least in that they depend from presently amended independent claims 1 and 15. Moreover, the above identified references have been reviewed and it is submitted that the features of these claims further distinguish from the prior art of record by providing a shunt having a plurality of through holes formed in the substrate, a shearable portion of a substrate, and a cover layer comprising a carbonizable material, for example. In this regard, the Examiner's indication of allowable subject matter within claims 5-8, 17-22, and 25-29 is noted with appreciation.

In view of the above remarks, it is respectfully submitted that the claims and the present application are now in condition for allowance, which allowance is earnestly solicited. In the event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any remaining issues in the application, the Examiner is invited to contact the undersigned as set out below.

Dated: July 2, 2004

Respectfully Submitted,

By:

  
Kevin J. Hubbard, Reg. No. 50,717



33072

PATENT TRADEMARK OFFICE

Phone: 651-275-9813

Facsimile: 651-351-2954